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ASSIGNMENT BOOKLET 8A

Mathematics 4
Module 8: Days 1–7

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Assigned Teacher:

Date Assignment Received:

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Teacher's Comments

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

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Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

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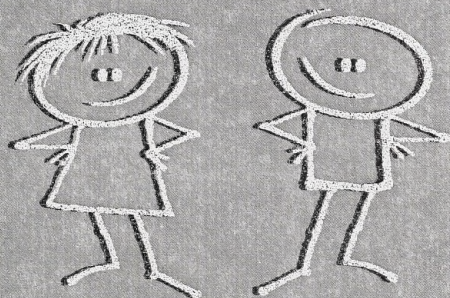
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Mathematics 4

Module 8 Exploring Geometry



Assignment Booklet 8A



Learning
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Summary

	Total Possible Marks	Your Mark
Day 1	12	
Day 2	18	
Day 3	25	
Day 4	22	
Day 5	14	
Day 6	(1) 57	
	(2) 13	
Day 7	(1) 20	
	(2) 10	
	191	

Teacher's Comments

This document is intended for

Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

Mathematics 4
Module 8: Exploring Geometry
Assignment Booklet 8A
Learning Technologies Branch
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ASSIGNMENT BOOKLET 8A

MATHEMATICS 4 – MODULE 8: EXPLORING GEOMETRY

Notes to the Home Instructor

Learning Tasks

The nine mathematics modules and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

When completing the assignments, students should work carefully and neatly. Students should do the activities in the Assignment Booklets **independently**. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, he or she should review the appropriate sections in the Student Module Booklet. The home instructor can assist the student by reviewing these sections with the student and encouraging him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

Assessment and Evaluation

A broad range of assessment tools will be used to gather information for the purpose of evaluating the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Assignment Booklet questions, journal entries, performance assessments, observations by the home instructor, and student self-evaluation pages may all be used. As well, the teacher may also use a final test.

In order to give the student and home instructor feedback on the student's current level of achievement throughout the school year, the student's teacher will provide written comments and assign a grade at the end of each module. The mark for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklets. However, other broad-based assessment techniques (journal entries, performance assessments, and so on) may also be used.

12

Day 1: Looking at Lines



1.

Journal Entry

Imagine that you are at your favourite restaurant. You are enjoying a tasty lunch and noticing all the kinds of lines around you—on the floor, in the furniture, in clothing designs, and in the pictures on the walls. Maybe even on your plate of food! On the lines below, write about all the kinds of lines that you see. Remember to use the correct names for any special lines that you find.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

②

2. Draw **one** example of each of the following.

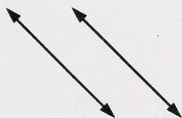
a. line segment

b. line

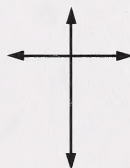
③

3. Identify the following lines by labelling them **parallel** or **intersecting**.

a.



b.



c.



②

4. Use your ruler to draw a horizontal line and a vertical line. Label each one.

18

Day 2: Looking at Angles

12

1. Sort and classify the following angles. Decide if each is a **right angle**, **less than a right angle**, or **greater than a right angle**. Write the letter of the angle in the correct column of the chart.

a.



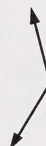
b.



c.



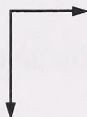
d.



e.



f.



g.



h.



i.



j.



k.



l.



Right Angles	Angles Less Than a Right Angle	Angles Greater Than a Right Angle

③

2. Draw one example of each of the following.

a. a ray

b. perpendicular lines

c. a right angle

③

3. Sketch a picture of the outside of your home. Include at least one example of each kind of angle that you have learned about.

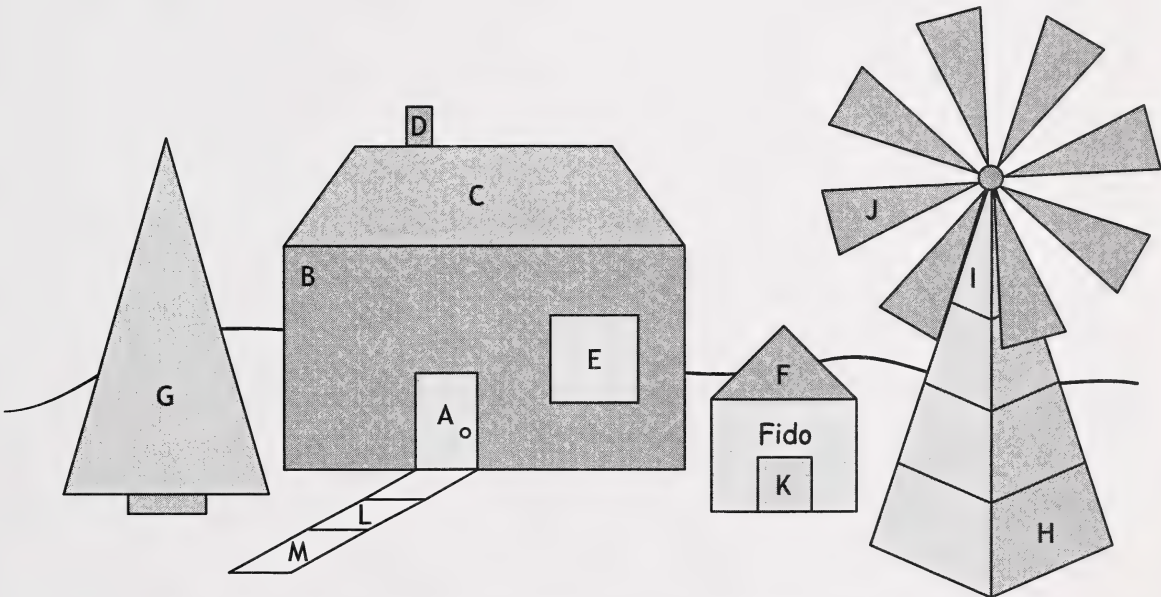
- With a **blue** crayon or marker, outline all the **right angles** in your picture.
- With a **red** crayon or marker, outline all the angles that are **less than a right angle**.
- With a **green** crayon or marker, outline all the angles that are **greater than a right angle**.

25

Day 3: Triangles and Quadrilaterals

10

1. In the drawing below, locate the triangles and quadrilaterals. Sort them into the correct categories listed on the chart. Write each letter under the correct heading. Some figures may be in more than one category.



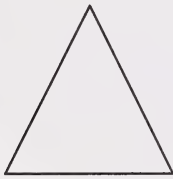
Triangle	Right Triangle	Square	Rectangle

Quadrilateral	Trapezoid	Rhombus	Parallelogram

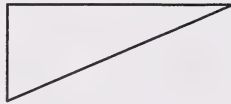
③

2. Circle the triangles that have a right angle.

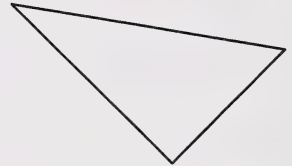
a.



b.



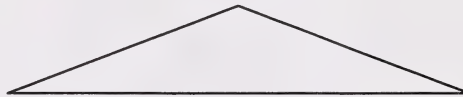
c.



d.



e.



④

3. Explain how a **parallelogram** is different from a **trapezoid**. Draw and label an example of each below.



4.

Journal Entry

What if there were no such thing as a rectangle? Imagine if furniture, books, appliances, and buildings had to be a shape other than rectangular. Tell what you think the world would be like.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

③

5. Draw the world you described in your Journal Entry.

22

Day 4: More Polygons

2

1. Draw **two** examples of polygons.

10

2. Each of the following figures can be called by more than one name. Write out all the names for each shape. Use the names from the list that follows. An example has been done for you.

polygon
 triangle
 quadrilateral
 parallelogram

rectangle
 square
 rhombus

trapezoid
 hexagon
 pentagon

Example



- polygon
- quadrilateral
- parallelogram
- rectangle

a.



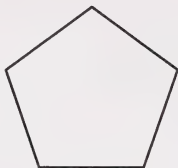
- _____
- _____
- _____
- _____

b.



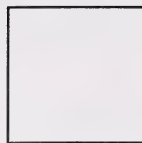
- _____
- _____
- _____

c.



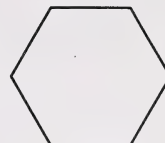
- _____
- _____

d.



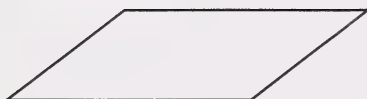
- _____
- _____
- _____
- _____

e.



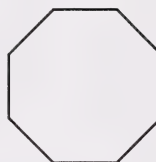
- _____
- _____

f.



- _____
- _____
- _____

g.



- _____
- _____

- ⑩ 3. People who make hardwood floors or ceramic tile patterns must use their knowledge of geometry to create patterns that are attractive. You now have the chance to practise being a floor designer.

Cut out the quadrilaterals for Day 4 that are found at the back of this Assignment Booklet.

On a sheet of paper, arrange and trace your parallelograms, rhombuses, and trapezoids to make a pleasing pattern. You will have to use the pieces several times to get a design. Repeat your design across the page.

When you are happy with your results, use crayons or markers to colour the pattern.

Be sure to attach the sheet of paper with your design to this Assignment Booklet.

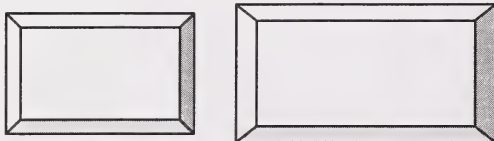
14

Day 5: It Looks the Same to Me

2

1. Which of these pairs of figures are congruent? Circle the letter of each congruent pair. You may use tracing paper or a clear plastic sheet if you wish.

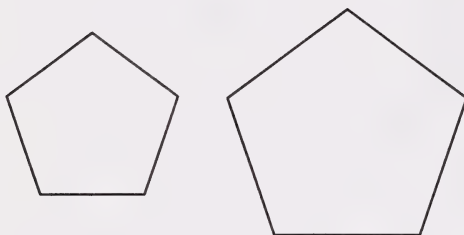
a.



b.



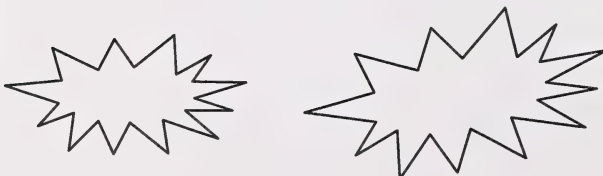
c.



d.

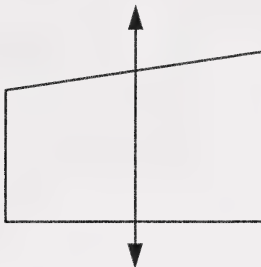


e.



②

2. Explain why this line is **not** a line of symmetry.



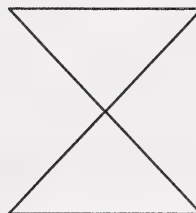
④

3. Draw **one** line of symmetry for each of these figures.

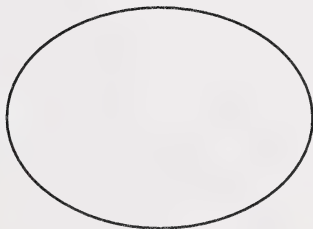
a.



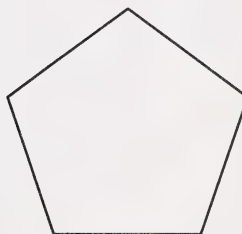
b.



c.

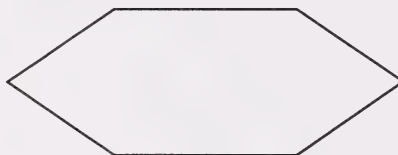


d.

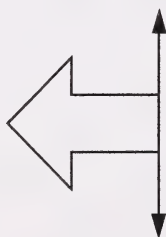


- ② 4. Name and draw **one** symmetrical shape or figure that you would find in your home.

- ② 5. Draw **two** lines of symmetry for this figure.



- ② 6. Complete the other identical half of this symmetrical figure.



Day 6: Putting It All Together (I)

57

Part 1: Reviewing the Concepts

Use what you have learned about 2-D figures to complete the following questions. Look back in the Student Module Booklet if you need to review any of the concepts you have learned. You are to complete **all** of the questions in Part 1.

6

1. Write the correct name of each line.

a.



b.



c.



d.



e.



f.





2.



⑤

Journal Entry

Look at a street map of your town or city. Or look at the street map on page 216 of the textbook. Describe the way the streets are laid out in your town or in the town shown on page 216. Why do you think streets and roads are laid out the way they are?

Use some of the following words in your explanation.

straight
curved
lines

- perpendicular
- parallel
- intersecting

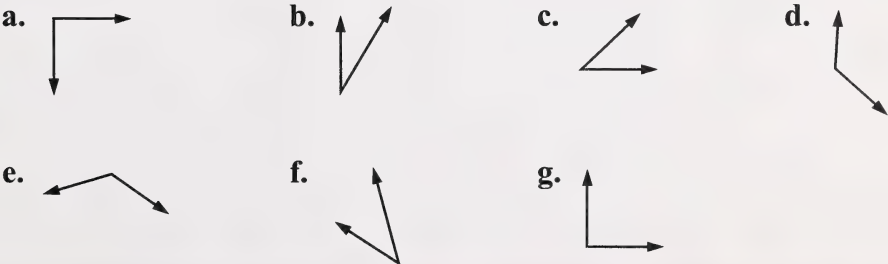
This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

3. Draw each of the following. Use a ruler.

- a. a ray
- b. a right angle

c. perpendicular lines

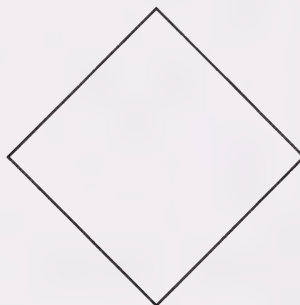
4. Put these angles in the correct categories by writing the letters in the boxes.



Right Angles	Angles Less Than a Right Angle	Angles Greater Than a Right Angle

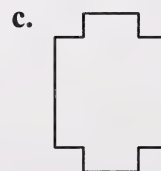
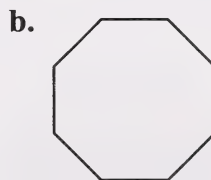
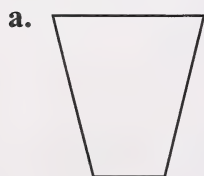
- ② 5. Draw two examples of right triangles. Use a ruler.

- ④ 6. How many right triangles does it take to make this figure? Draw lines to show where the right triangles are.



- ① 7. A quadrilateral has _____ straight sides.

- ② 8. Which of the following figures are quadrilaterals? Circle them.



- ⑦ 9. Match the name with the correct picture. Put the letter of the picture beside its correct name. Each word will have only one letter beside it.

• trapezoid: _____

• parallelogram: _____

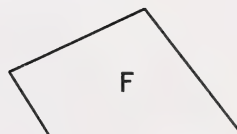
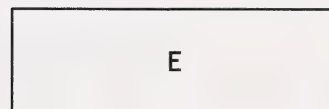
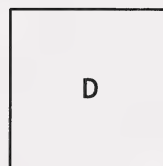
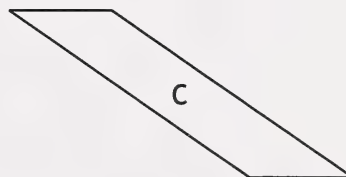
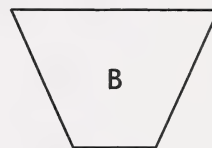
• triangle: _____

• rhombus: _____

• quadrilateral: _____

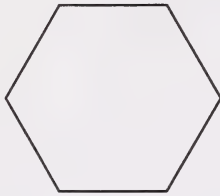
• square: _____

• rectangle: _____

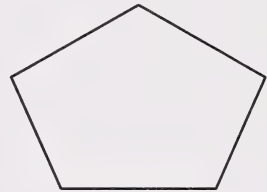


- ① 10. A polygon has _____ straight sides.
- ① 11. A pentagon has _____ straight sides.
- ① 12. A hexagon has _____ straight sides.
- ① 13. An octagon has _____ straight sides.
- ④ 14. Label the figures below as pentagons, hexagons, or octagons.

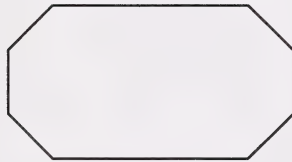
a.



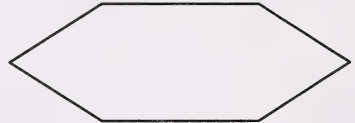
b.



c.



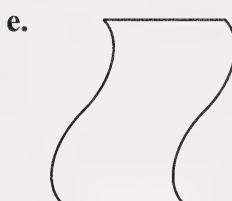
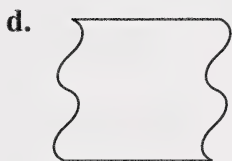
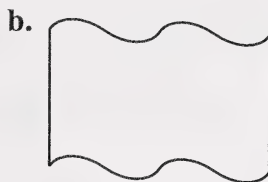
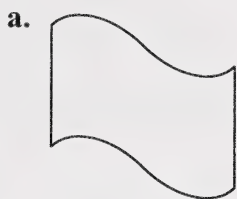
d.



- ② 15. Explain how you know that two geometric figures are congruent.

②

16. Put a large X on the two figures that are congruent.



②

17. A figure is symmetrical if _____

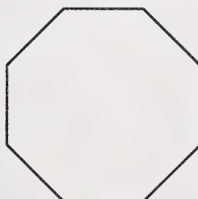
③

18. Decide whether or not these figures are symmetrical. Draw lines of symmetry on only those figures that are symmetrical.



③

19. Draw **three** lines of symmetry for this figure. Use your ruler.





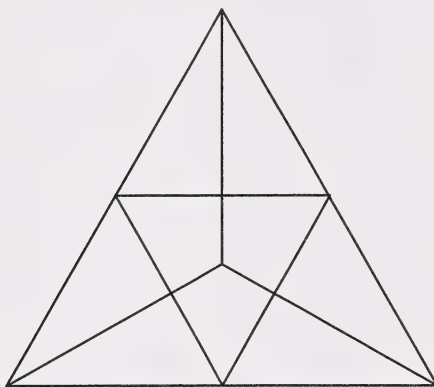
Part 2: Challenge Activities

Choose **either** Activity A **or** Activity B. You may do both if you wish.

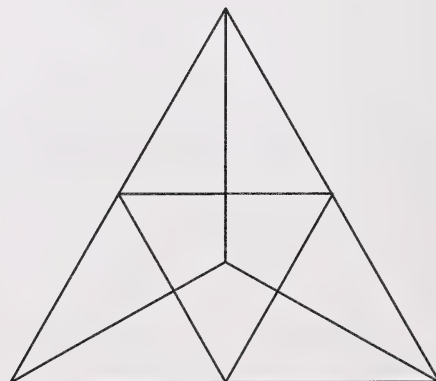
Activity A: How Many Hidden Polygons Can You Find?

13

- The following figure has been divided into polygons of different shapes. Your job is to locate the hidden figures and record the number of them that you find. You may wish to use different colours of crayons to help you outline the polygons as you find them.



- How many triangles are in this figure? _____
 - How many quadrilaterals are in this figure? _____
- Using the following picture, outline in colour the following:
 - **one** pair of parallel lines (red)
 - **two** right angles (green)
 - **three** intersection points (orange)



⑤

3. Design your own “hidden polygons” figure. Choose one of the geometric shapes you have learned about in this section. Use a ruler to draw it in the space below. Then divide it into halves. Then divide the halves again. The halves may or may not be symmetrical. Then count and record the number of polygons you have hidden within the figure. You may not find all of these polygons in your figure.

• triangles _____

• trapezoids _____

• squares _____

• rectangles _____

• parallelograms _____

• rhombuses _____

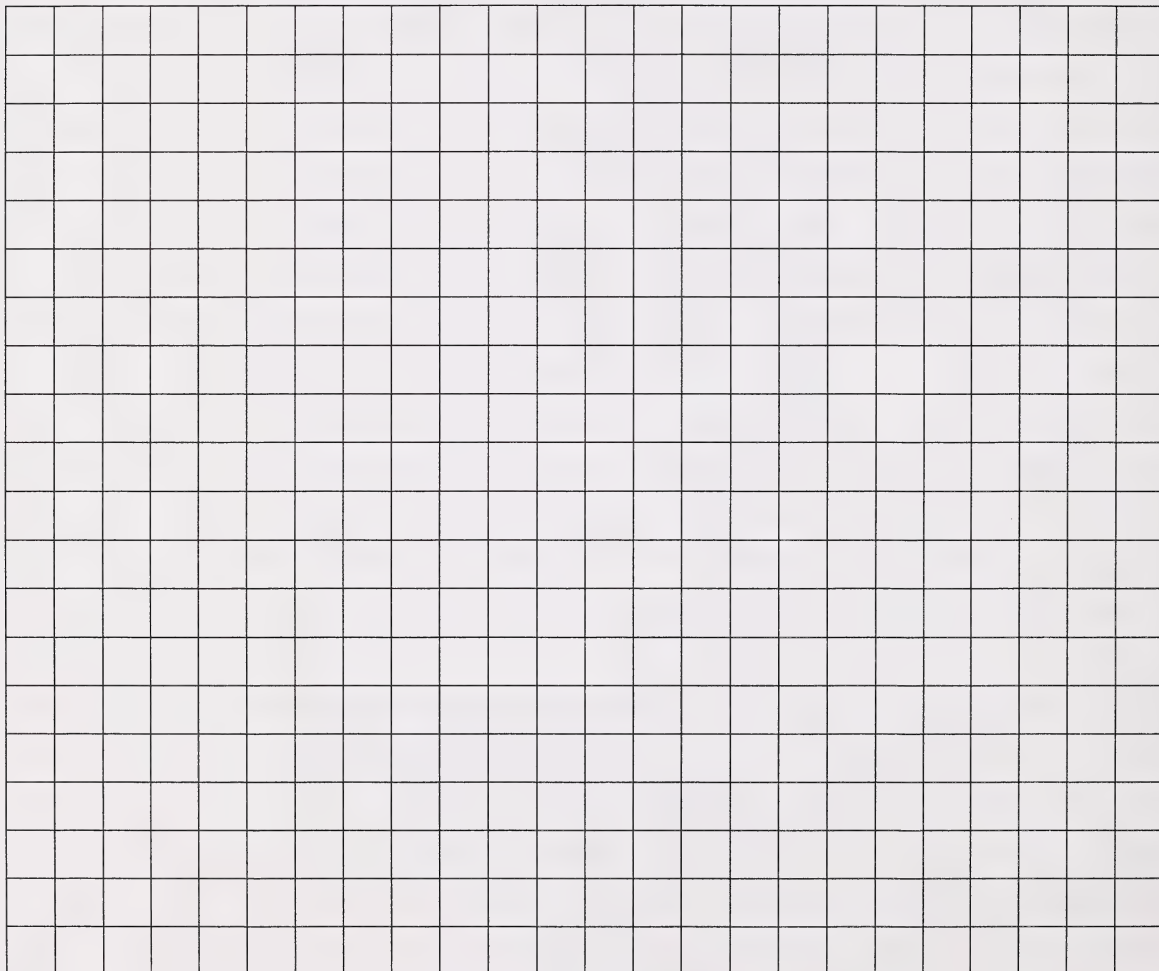
13

Activity B: Create a Picture

5

1. On the grid below, create a picture by drawing straight lines with your ruler. You must include the following in the picture:

- **two** sets of parallel lines (Colour them red.)
- **four** right angles (Colour them blue.)
- **three** angles that are less than a right angle (Colour them orange.)
- **two** intersecting lines (Colour the **point** where they intersect purple.)



8

2. In the space below, draw a picture of an animal that is made up of geometric figures. Use a ruler to draw carefully. You must **use only straight lines** in your drawing and you must include **at least one of each** of these figures:

- triangle
- rectangle
- square
- parallelogram
- rhombus
- trapezoid
- hexagon
- pentagon

Day 7: Assessing What You Know (I)



Home Instructor's Assessment Page for Day 7

Directions for the Home Instructor

Remove this sheet from the Assignment Booklet. Use the Checklist and Comments sections to help evaluate the student's work. When the Day 7 activities have been completed, firmly attach this sheet to Assignment Booklet 8A.

Student's Name _____

Home Instructor _____ Date _____

Indicate in the Checklist and Comments sections what you observe and hear as the student works through the assessment task. Encourage the student to “think out loud” as he or she works. As you observe, you may wish to use questions or prompts like the following to help in determining the student's level of understanding:

- How do you know these lines are parallel? intersecting? perpendicular?
- What is the difference between these figures?
- Why did you draw it that way?
- How do you know that it is symmetrical?
- Is there another way to draw the line?

Checklist

A. The student can identify (or draw) these figures:

• parallel lines	<input type="checkbox"/> Yes	<input type="checkbox"/> Not yet
• intersecting lines	<input type="checkbox"/> Yes	<input type="checkbox"/> Not yet
• vertical lines	<input type="checkbox"/> Yes	<input type="checkbox"/> Not yet
• horizontal lines	<input type="checkbox"/> Yes	<input type="checkbox"/> Not yet
• perpendicular lines	<input type="checkbox"/> Yes	<input type="checkbox"/> Not yet
• right angles	<input type="checkbox"/> Yes	<input type="checkbox"/> Not yet
• angles less than a right angle	<input type="checkbox"/> Yes	<input type="checkbox"/> Not yet
• angles greater than a right angle	<input type="checkbox"/> Yes	<input type="checkbox"/> Not yet

B. The student can explain the difference in types of quadrilaterals by referring to the number of parallel sides, the length of sides, and the types of corner angles.

☐ Yes ☐ Not yet

C. The student can identify and draw lines of symmetry in 2-D figures.

☐ Yes ☐ Not yet

Comments

Add any comments you have regarding the student's performance on the assessment task or any other information about the student's learning experiences in this module that you would like to share with the teacher.

Day 7: Assessing What You Know (I)

Student's Assessment Page for Day 7

20

Student's Name _____

Part 1: Showing What You Can Do

Note: You will need a ruler to complete this task.

Understanding 2-D Figures

1. Draw each of these figures.

a. a quadrilateral

b. a line segment

c. a right angle

d. a rhombus

e. horizontal parallel lines

f. a right triangle

g. an angle less than a right angle

h. a vertical line

i. a trapezoid

j. intersecting lines

k. a parallelogram

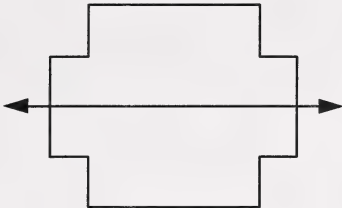
l. an angle greater than a right angle

m. perpendicular lines

n. a point

⑥

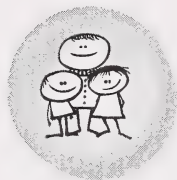
2. Describe the figure shown below. List, in point form, the things you know about the figure.



- _____
- _____
- _____
- _____
- _____
- _____

10

Part 2: Basic Number Facts



This section is made up of two timed tests. Ask your home instructor to time you as you do each test. Wait for your home instructor to tell you when to begin. **Do not mark these tests. They will be marked by your teacher.**

1. Addition Number Facts

Timed Test: 2 minutes

5

$$\begin{array}{r} 5 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 9 \\ \hline \end{array}$$

$3 + 8 =$

$5 + 7 =$

$9 + 2 =$

$6 + 6 =$

$7 + 6 =$

$$\begin{array}{r} 4 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 3 \\ \hline \end{array}$$

$5 + 9 =$

$4 + 8 =$

$6 + 5 =$

$8 + 8 =$

$3 + 9 =$

$$\begin{array}{r} 9 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 9 \\ \hline \end{array}$$



If you finish before the two minutes are up, check your answers. Wait for your home instructor to tell you when to begin the next test.

5

2. Multiplication Number Facts

Timed Test: 2 minutes

$7 \times 5 =$

$8 \times 8 =$

$5 \times 4 =$

$2 \times 7 =$

$4 \times 5 =$

$$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$7 \times 8 =$

$9 \times 3 =$

$5 \times 8 =$

$4 \times 9 =$

$8 \times 3 =$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$9 \times 6 =$

$5 \times 9 =$

$6 \times 6 =$

$8 \times 4 =$

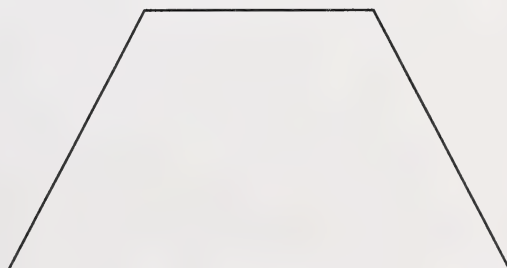
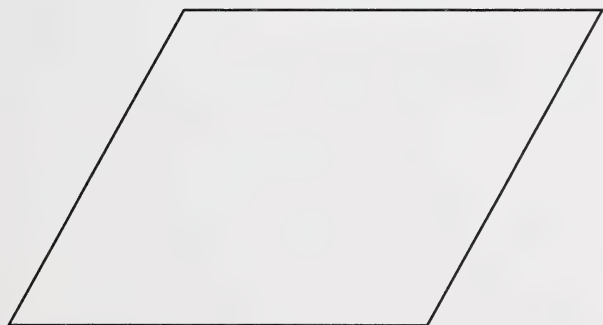
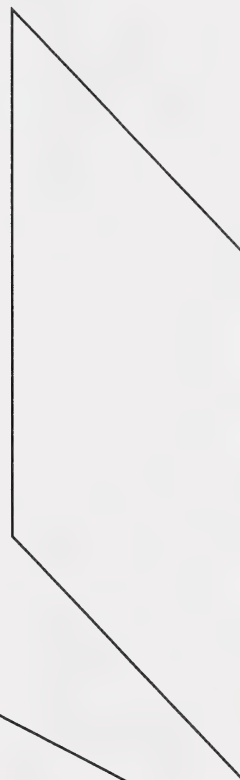
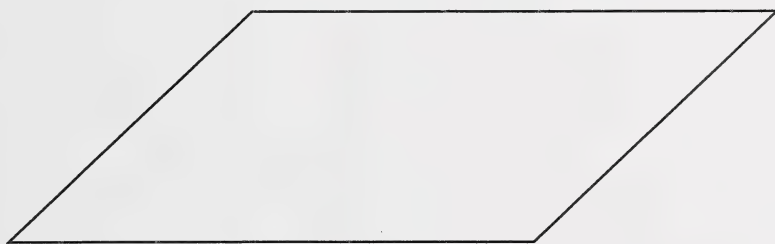
$6 \times 7 =$



If you finish before the two minutes are up, check your answers.

Cut-Out Learning Aids

Day 4: Quadrilaterals



ALJ-2002-193
NOTILL
C.D. 1/8

ASSIGNMENT BOOKLET 8B

Mathematics 4
Module 8: Days 8–15

Home Instructor's and Student's Comments:

STUDENT FILE NUMBER
(if label is missing or incorrect)

Date Submitted:

Apply Module Label Here

Name

Address

Postal Code

*Please verify that preprinted label is for
correct course and module.*

FOR SCHOOL USE ONLY

Assigned Teacher:

Date Assignment Received:

Grading:

Teacher's Comments

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.
2. All faxing costs are the responsibility of the sender.

E-MAILING

Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Mathematics 4

Module 8 Exploring Geometry



Assignment Booklet 8B



Learning
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Summary

	Total Possible Marks	Your Mark
Day 8	16	
Day 9	4	
Day 10	23	
Day 11	12	
Day 12	18	
Day 13	23	
Day 14	(1) 44	
	(2) 10	
Day 15	(1) 22	
	(2) 10	
	182	

Teacher's Comments

This document is intended for

Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

Mathematics 4
Module 8: Exploring Geometry
Assignment Booklet 8B
Learning Technologies Branch
ISBN 0-7741-1823-7

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ASSIGNMENT BOOKLET 8B

MATHEMATICS 4 – MODULE 8: EXPLORING GEOMETRY

Notes to the Home Instructor

Learning Tasks

The nine mathematics modules and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

When completing the assignments, students should work carefully and neatly. Students should do the activities in the Assignment Booklets **independently**. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, he or she should review the appropriate sections in the Student Module Booklet. The home instructor can assist the student by reviewing these sections with the student and encouraging him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

Assessment and Evaluation

A broad range of assessment tools will be used to gather information for the purpose of evaluating the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Assignment Booklet questions, journal entries, performance assessments, observations by the home instructor, and student self-evaluation pages may all be used. As well, the teacher may also use a final test.

In order to give the student and home instructor feedback on the student's current level of achievement throughout the school year, the student's teacher will provide written comments and assign a grade at the end of each module. The mark for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklets. However, other broad-based assessment techniques (journal entries, performance assessments, and so on) may also be used.

16

Day 8: Looking at 3-D Objects



1.

Journal Entry

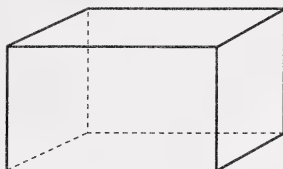
Explain or tell how the 3-D objects you worked with today were the same? How were they different?

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

③

2. Follow these directions to colour the prism:

- Colour one vertex red.
- Colour one face blue.
- Colour one edge orange.



③

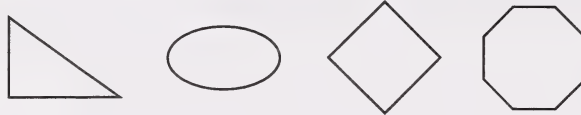
3. Look at the drawing above.

- a. How many vertices are there? _____
- b. How many edges are there? _____
- c. How many faces are there? _____

⑤

4. Use the four-step problem-solving process to solve this problem.

You want to create a design using the four geometric shapes shown below, but you can't decide what order to put the shapes in. Show all the different combinations you could make.



How many possible combinations can you make? _____

4

Day 9: Geometric Solids and Nets

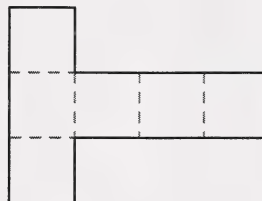
2

1. Which of these nets will **not** make a cube when folded? Circle them.

a.



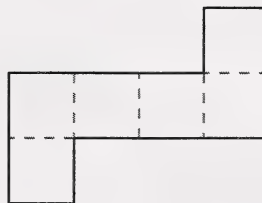
b.



c.



d.



2

2. Refer to your rectangular prism or the cereal box that you cut apart. In the space below, draw another net for your cereal box. **Do not** draw the net shown in the Appendix or the net that you drew in question 5 of the Day 9 lesson.

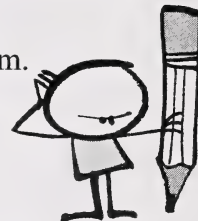
23

Day 10: Prisms of All Sorts



15

1. Fill in the following chart to compare the different kinds of prisms.

- Draw the shape of the base and the face for each prism.
- Count the number of sides on the base of each prism.
- Count the number of bases on each prism.
- Count the total number of faces on each prism.



Use the models of prisms that you made in today's lesson. One example is done for you.

	Triangular Prism	Rectangular Prism	Pentagonal Prism	Hexagonal Prism
Shape of Bases				
Shape of the Other Faces				
Number of Sides on the Base	3			
Number of Bases	2			
Total Number of Faces	5			

3

2. Think of a real-life example of each of these prisms.

a. rectangular prism: _____

b. triangular prism: _____

c. cube: _____

5

3. Use the Making a Table problem-solving strategy to solve this problem. Show your work as you solve the problem. Look back in the lesson for Day 10 if you have difficulty.

Anna and Josie are friends who work at the local hospital. They sometimes have the chance to work the same shift. Anna works the late shift every third week. Josie works the late shift every fourth week. They are working together this week. How many times will they work together in the next 26 weeks?



How many times will Anna and Josie work together in the next 26 weeks? _____

12

Day 11: Looking at Pyramids



4

1. Turn to pages 210 and 211 in your textbook. Read the information about pyramids and look carefully at the pictures. Answer questions 2 and 3 on page 211 in the spaces below. Use complete sentences.

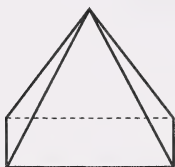
2. _____

3. _____

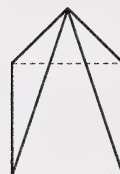
4

2. Write the correct name of each pyramid.

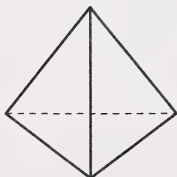
a.



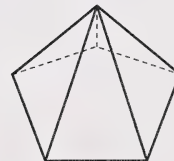
b.



c.



d.



④

3. a. All pyramids have _____ base.
- b. A square-based pyramid has _____ triangular faces.
- c. A pentagonal pyramid has _____ triangular faces.
- d. A hexagonal pyramid has _____ triangular faces.

18

Day 12: Making Nets for Pyramids

4

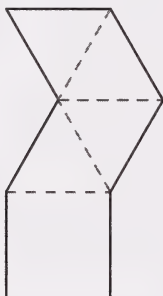
1. Match each net to its correct name. Write the letter for the correct pyramid on the blank below the net.

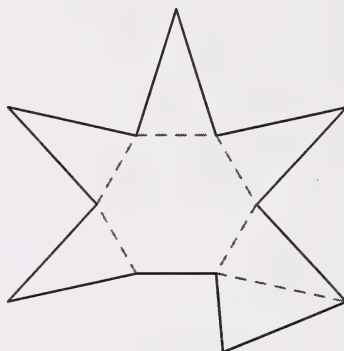
A. pentagonal-based pyramid

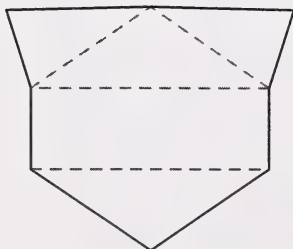
B. square-based pyramid

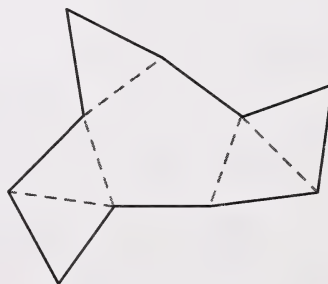
C. hexagonal-based pyramid

D. rectangular-based pyramid





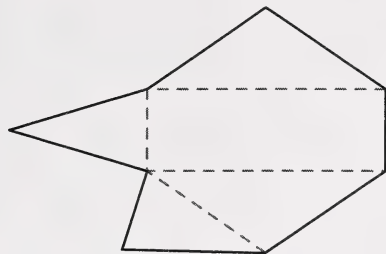




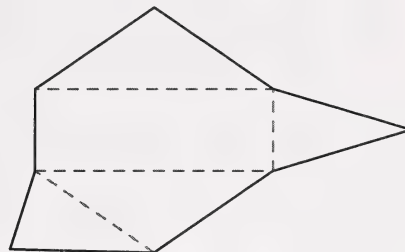
①

2. Which of these nets will **not** make a rectangular pyramid? Circle it.

a.



b.



④

3. Sketch a net of a square-based pyramid that is not the same as the one shown on the previous page.

⑨

4. Use the four-step method to solve the following problem.

Tanya is trying to decide how to decorate her room. She can choose **one** colour of paint for her walls and one pattern for her wallpaper.

The paint colours are

- green
- blue
- yellow
- beige

The wallpaper patterns are

- geometric
- floral
- scenery

How many different ways can she decorate her room? Find all the possible choices.

How many ways can Tanya decorate her room? _____

23

Day 13: Comparing Prisms and Pyramids



1. Turn to pages 208 and 209 of your textbook. Complete questions 1, 2, 3, and 4 of On Your Own.

6

1. Write the name for the solid that would be created by each net.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

1

2. _____

1

3. _____

1

4. _____



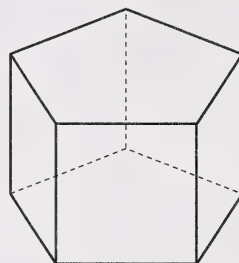
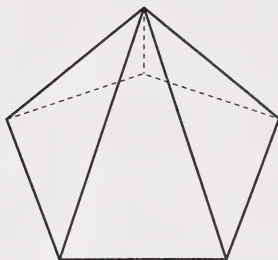
6

2. Do Practise Your Skills on page 209 of the textbook.

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

⑧

3. Fill in the chart to compare a pentagonal prism and a pentagonal pyramid.



	Pentagonal Pyramid	Pentagonal Prism
Number of Faces		
Number of Edges		
Number of Vertices		
Any Right Angles?		

Day 14: Putting It All Together (II)

44

Part 1: Reviewing the Concepts

Use what you know about 3-D objects to complete the following questions. Look back in the Student Module Booklet if you need to review any of the concepts you have learned. You are to complete **all** of the questions in Part 1.



1.

Journal Entry

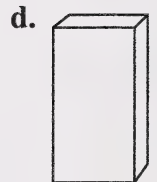
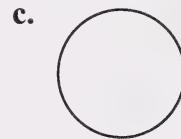
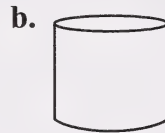
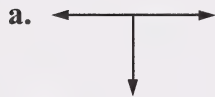
It's your turn to be a building designer. Try to design a building that is different from any that you have seen. What geometric solids would you use in your building?

a. Draw a sketch of your building below.

- b. Tell about your design. Why did you choose to make your building this way?

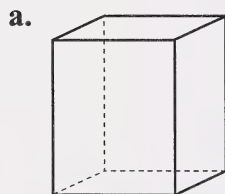
②

2. Which of these drawings show 3-D solids? Circle them.



⑥

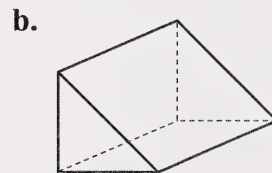
3. Tell how many faces, edges, and vertices each of these solids has.



faces: _____

edges: _____

vertices: _____



faces: _____

edges: _____

vertices: _____

- ③ 4. Draw a net that would make a cube when folded.

- ④ 5. Indicate whether each statement is **True** or **False**.

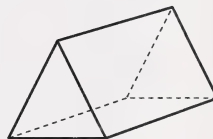
- a. The ends of a prism are parallel to each other. _____
- b. All prisms have faces shaped like triangles. _____
- c. A rectangular prism is difficult to find around your home. _____
- d. There are many ways to design a net for a prism. _____

- ④ 6. Write the correct name for each 3-D solid.

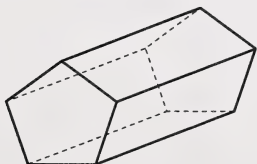
a.



b.



c.



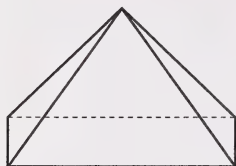
d.



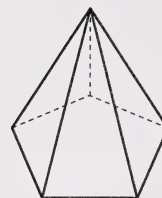
④

7. Write the correct name of each pyramid.

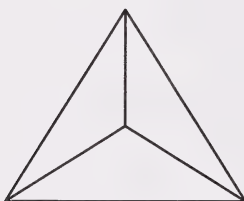
a.



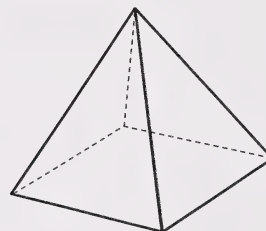
b.



c.



d.



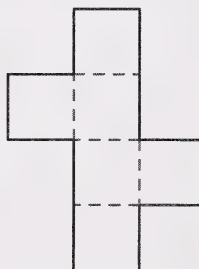
②

8. Which of these nets would **not** form a cube when folded? Circle them.

a.



b.



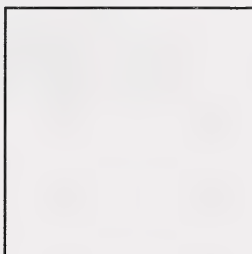
c.



9. Draw nets for these 3-D solids. One base for each solid is drawn for you already. Use a ruler. You may want to cut out your first draft on another sheet of paper first to make sure that the net works.

②

- a. net for a square-based pyramid



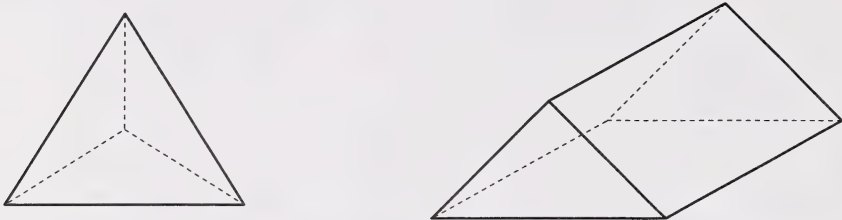
②

- b. net for a rectangular prism.



10

10. Fill in the chart comparing prisms and pyramids.



	Triangular-Based Pyramid	Triangular Prism
Total Number of Faces		
Number of Edges		
Number of Vertices		
Any Parallel Faces?		
Any Right Angles?		

Part 2: Challenge Activities

Choose **either** Activity A **or** Activity B. You may do both if you wish.

Activity A: Design Your Own Net

10

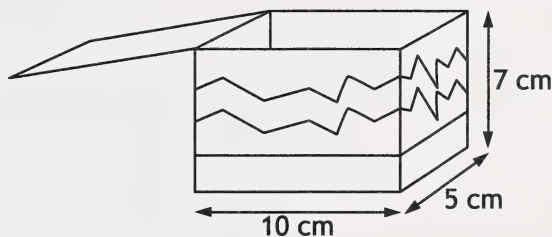
In this activity you will design your own net for a rectangular prism. You will also decorate the net and put it together to make your own small box.

You will need a sheet of paper, a ruler, pencil, pencil crayons or markers, scissors, and tape.

Use the checklist to help you.

- ☐ Draw a quick sketch of your net to plan how to place the rectangles.
- ☐ You will need two rectangular bases that are 5 cm by 7 cm.
- ☐ You will need two rectangular faces that are 7 cm by 10 cm.
- ☐ You will need two rectangular faces that are 5 cm by 10 cm.
- ☐ Draw your net and cut it out.
- ☐ Decorate it with a geometric design.
- ☐ Tape your net together and display it.

You may want to leave one side of your prism open so that it is like a lid. Then you can store small “treasures” inside.



⑤

1. Draw a sketch of the net you designed for your rectangular prism.

⑤

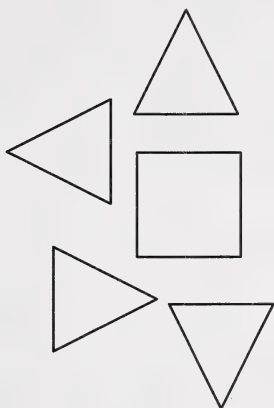
2. On the lines below talk about your design. Tell about any problems you experienced. How did you decorate your rectangular prism?

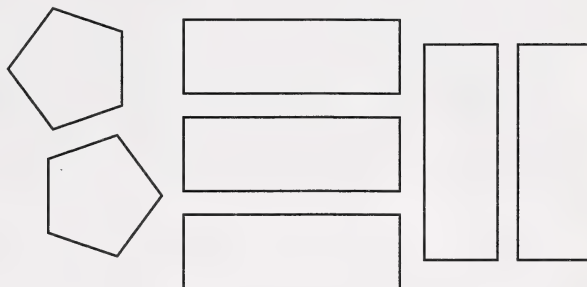
10

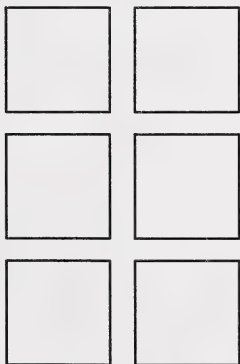
8

Activity B: Make a Shape

1. The sets of 2-D shapes below are the faces found on 3-D solids. Your job is to decide what kind of 3-D solid can be made from each set of shapes. Write the name of the solid on the line below the set of shapes.

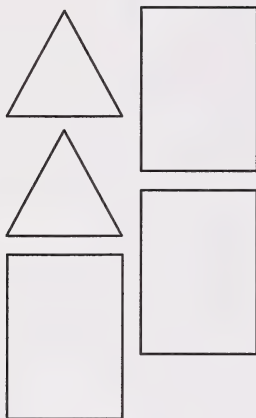
a.

b.

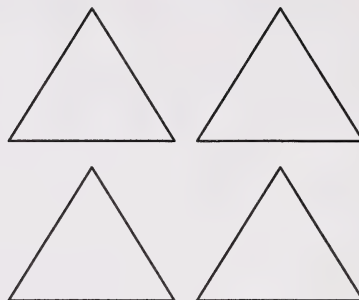
c.

d.

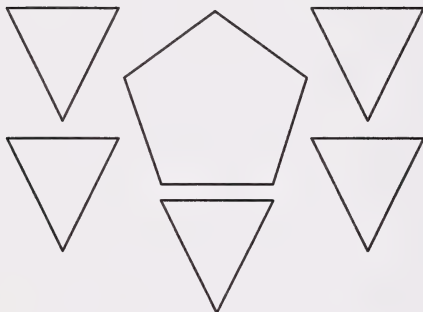
e.



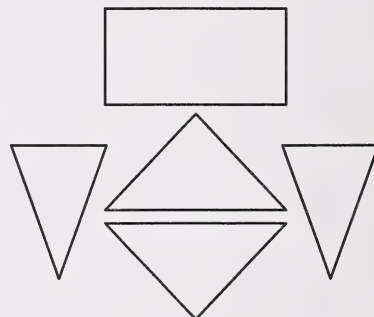
f.



g.



h.



②

2. Why is it more practical to have a rooftop that is the shape of a triangular prism than it is to have a rooftop that is the shape of a rectangular prism?

Day 15: Assessing What You Know (II)



Home Instructor's Assessment Page for Day 15

Directions for the Home Instructor

Remove this sheet from the Assignment Booklet. Use the Checklist and Comments sections to help evaluate the student's work. When the Day 15 activities have been completed, firmly attach this sheet to Assignment Booklet 8B.

Student's Name _____

Home Instructor _____ Date _____

Indicate in the Checklist and Comments sections what you observe and hear as the student works through the assessment task. Encourage the student to “think out loud” as he or she works. As you observe, you may wish to use questions or prompts like the following to help in determining the student's level of understanding:

- How do you know this is a pyramid? a prism? a face? a vertex?
- Where are the faces? the edges? the bases?
- What is the difference between that solid and this one? Why is it in that group?
- Why did you draw the net this way?
- Is there another way to draw it?
- Why is the solid named that way?

Checklist

A. The student can identify these solids:

• pyramid (in general)

☐ Yes ☐ Not yet

• prism (in general)

☐ Yes ☐ Not yet

• specific pyramids:

– square-based pyramid

☐ Yes ☐ Not yet

– rectangular-based pyramid

☐ Yes ☐ Not yet

– pentagonal-based pyramid

☐ Yes ☐ Not yet

– hexagonal-based pyramid

☐ Yes ☐ Not yet

• specific prisms:

– triangular prism

☐ Yes ☐ Not yet

– rectangular prism

☐ Yes ☐ Not yet

– pentagonal prism

☐ Yes ☐ Not yet

– hexagonal prism

☐ Yes ☐ Not yet

B. The student can explain the differences between a pyramid and a prism.

☐ Yes ☐ Not yet

C. The student can draw a net for a pyramid.

☐ Yes ☐ Not yet

D. The student can draw a net for a prism.

☐ Yes ☐ Not yet

Comments

Add any comments you have regarding the student's performance on the assessment task or any other information about the student's learning experiences in this module that you would like to share with the teacher.

Day 15: Assessing What You Know (II)

Student's Assessment Page for Day 15

22

Student's Name _____

Part 1: Showing What You Can Do

Note: You will need a ruler to complete this task.

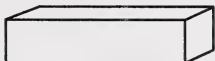
8

1. Sort the following solids into two groups. Name each group. Then write the letter of each solid in the correct box.

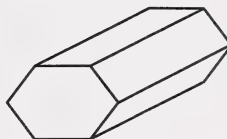
Group 1 Name: _____

Group 2 Name: _____

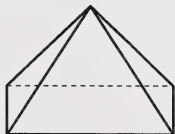
a.



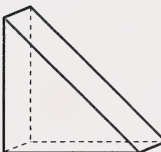
b.



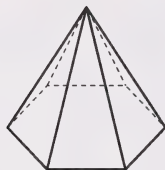
c.



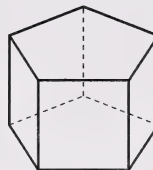
d.



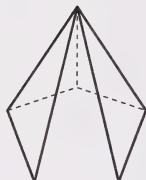
e.



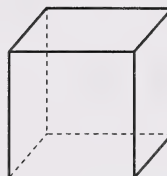
f.



g.



h.



⑧

2. Name the solid figures in question 1. Write the correct name on the lines below. Try to spell as accurately as you can.

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

- ⑥ 3. In the space below, sketch nets for one pyramid **and** one prism. Choose a type of pyramid or prism from question 1. Write the name of the solid beside its net.

10

Part 2: Basic Number Facts

This section is made up of two timed tests. Ask your home instructor to time you as you do each test. Wait for your home instructor to tell you when to begin. **Do not mark these tests. They will be marked by your teacher.**



1. Subtraction Number Facts

Timed Test: 2 minutes

5

$$\begin{array}{r} 18 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline \end{array}$$

$17 - 8 =$

$12 - 5 =$

$16 - 8 =$

$13 - 7 =$

$15 - 9 =$

$$\begin{array}{r} 11 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 8 \\ \hline \end{array}$$

$13 - 4 =$

$15 - 8 =$

$16 - 9 =$

$11 - 5 =$

$12 - 6 =$

$$\begin{array}{r} 11 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 9 \\ \hline \end{array}$$



If you finish before the two minutes are up, check your answers. Wait for your home instructor to tell you when to begin the next test.

⑤

2. Division Number Facts

Timed Test: 2 minutes

$$7 \overline{)42}$$

$$6 \overline{)36}$$

$$8 \overline{)24}$$

$$9 \overline{)81}$$

$$9 \overline{)63}$$

$$32 \div 8 =$$

$$25 \div 5 =$$

$$40 \div 8 =$$

$$56 \div 8 =$$

$$72 \div 8 =$$

$$9 \overline{)27}$$

$$3 \overline{)21}$$

$$4 \overline{)36}$$

$$6 \overline{)42}$$

$$6 \overline{)54}$$

$$45 \div 9 =$$

$$56 \div 7 =$$

$$24 \div 4 =$$

$$32 \div 4 =$$

$$64 \div 8 =$$

$$9 \overline{)54}$$

$$5 \overline{)45}$$

$$5 \overline{)30}$$

$$7 \overline{)49}$$

$$4 \overline{)28}$$



If you finish before the two minutes are up, check your answers.

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LA V.8

ASSIGNMENT BOOKLET 8C

Mathematics 4
Module 8: Days 16–23

Home Instructor's and Student's Comments:

STUDENT FILE NUMBER
(if label is missing or incorrect)

Date Submitted:

Apply Module Label Here

Name

Address

Postal Code

*Please verify that preprinted label is for
correct course and module.*

FOR SCHOOL USE ONLY

Assigned Teacher:

Date Assignment Received:

Grading:

Teacher's Comments

Teacher's Signature

Home Instructor: Keep this sheet when it is returned to you as a record of the student's progress.

INSTRUCTIONS FOR SENDING IN THIS DISTANCE LEARNING ASSIGNMENT BOOKLET

When you register for distance learning courses, you are expected to send in Assignment Booklets for corrections regularly. Try to send each Assignment Booklet as soon as you have completed it. Before sending your Assignment Booklet, please check the following:

- Are all the assignments completed? If not, explain why.
- Has your work been reread to be sure the spelling and details are correct?
- Is the record form filled out and the correct module label attached?

MAILING

1. Postage Regulations

Do **not** enclose letters with Assignment Booklets.

Send all letters in a separate envelope.

2. Postage Rates

Take your Assignment Booklet to the post office and have it weighed. Attach enough postage and seal the envelope. Assignment Booklets will travel faster if correct postage is used and if they are in large envelopes that are no more than two centimetres thick.

FAXING

1. Assignment Booklets may be faxed. Contact your teacher for the fax number.
2. All faxing costs are the responsibility of the sender.

E-MAILING

Assignment Booklets may be e-mailed. Contact your teacher for the e-mail address.

Mathematics 4

Module 8 Exploring Geometry



Assignment Booklet 8C



Learning
Technologies
Branch

Alberta
LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Day 16	19	
Day 17	28	
Day 18	16	
Day 19	12	
Day 20	5	
Day 21	12	
Day 22	(1) 36	
	(2) 10	
Day 23	(1) 18	
	(2) 10	
	166	

Teacher's Comments

This document is intended for

Students	✓
Teachers	✓
Administrators	
Home Instructors	✓
General Public	
Other	

Mathematics 4
Module 8: Exploring Geometry
Assignment Booklet 8C
Learning Technologies Branch
ISBN 0-7741-1839-3

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ASSIGNMENT BOOKLET 8C

MATHEMATICS 4 – MODULE 8: EXPLORING GEOMETRY

Notes to the Home Instructor

Learning Tasks

The nine mathematics modules and the accompanying Assignment Booklets have been developed so that students become involved in a variety of learning tasks that help them develop mathematical skills, learn how to communicate mathematically, and become mathematical problem solvers.

When completing the assignments, students should work carefully and neatly. Students should do the activities in the Assignment Booklets **independently**. This will ensure that the teacher acquires a more accurate picture of the student's ability and understanding.

If the student is having difficulties, he or she should review the appropriate sections in the Student Module Booklet. The home instructor can assist the student by reviewing these sections with the student and encouraging him or her to explain, describe, or demonstrate (using manipulatives, drawings, and so on) his or her understanding of a particular concept or idea.

Assessment and Evaluation

A broad range of assessment tools will be used to gather information for the purpose of evaluating the student's knowledge and understanding of curriculum skills and concepts. It is important that the teacher learns how the student thinks about mathematics as well as what concepts and skills the student has mastered. Assignment Booklet questions, journal entries, performance assessments, observations by the home instructor, and student self-evaluation pages may all be used. As well, the teacher may also use a final test.

In order to give the student and home instructor feedback on the student's current level of achievement throughout the school year, the student's teacher will provide written comments and assign a grade at the end of each module. The mark for each module will be determined primarily by how well the student completes the assignments in the Assignment Booklets. However, other broad-based assessment techniques (journal entries, performance assessments, and so on) may also be used.

19

Day 16: Using Directions



1.

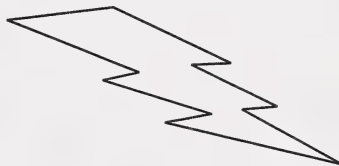
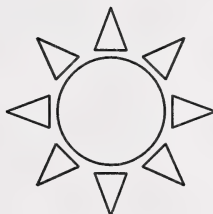
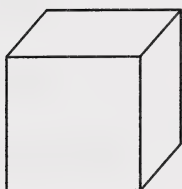
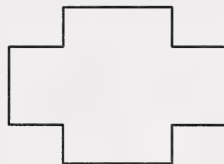
Journal Entry

Tell about a time you or someone you know had to get directions from someone. Who helped you or your friend? Did they give accurate directions? Did you or your friend find the place you were looking for?

[illegible]

8

2. Use the words **north**, **northwest**, **northeast**, **south**, **southwest**, **southeast**, **east**, and **west** to complete the statements about this drawing.

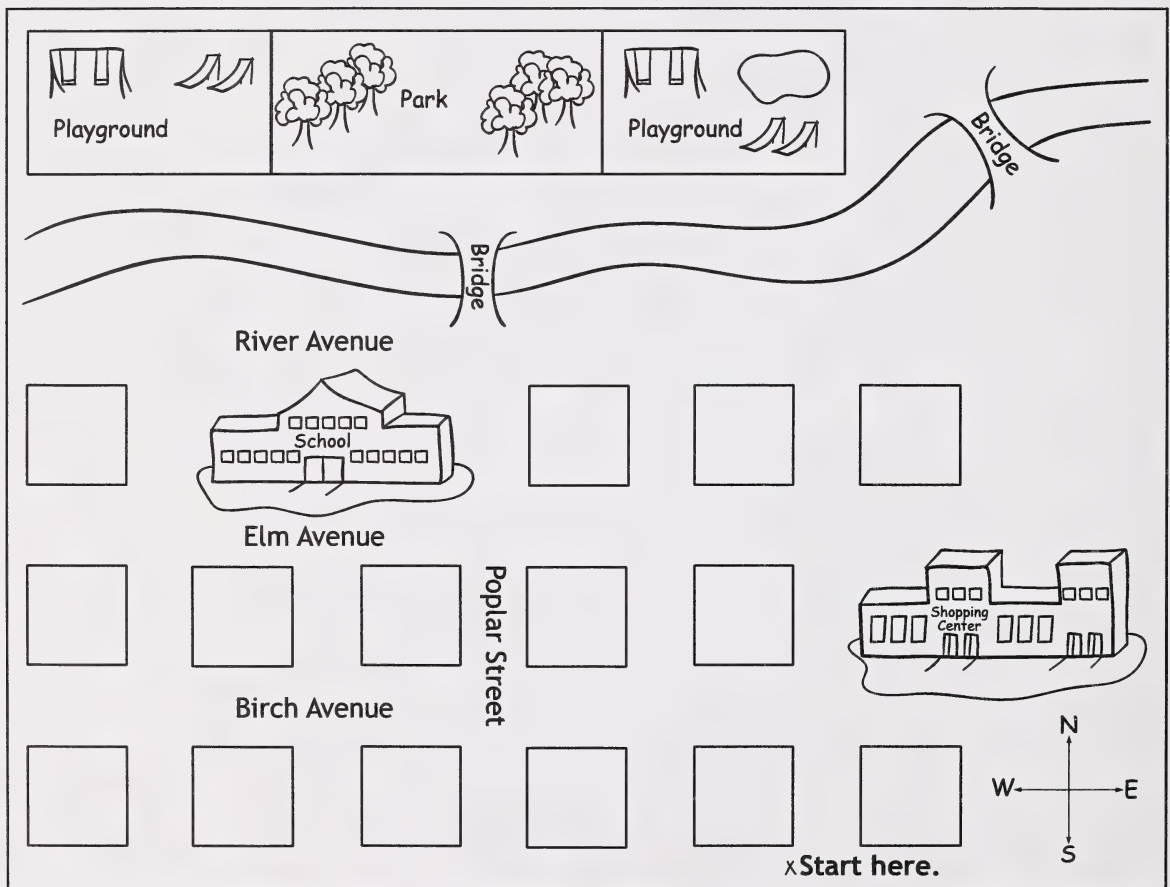


- a. The cube is _____ of the sun.
- b. The sun is _____ of the cross.
- c. The lightning bolt is _____ of the heart.
- d. The heart is _____ of the sun.
- e. The happy face is _____ of the sun.
- f. The heart is _____ of the cube.
- g. The sun is _____ of the cube.
- h. The lightning bolt is _____ of the cross.

⑥

3. Use a crayon or marker to show the route taken on the following map if you were to use the directions given here. Draw a star at the place where you stop.

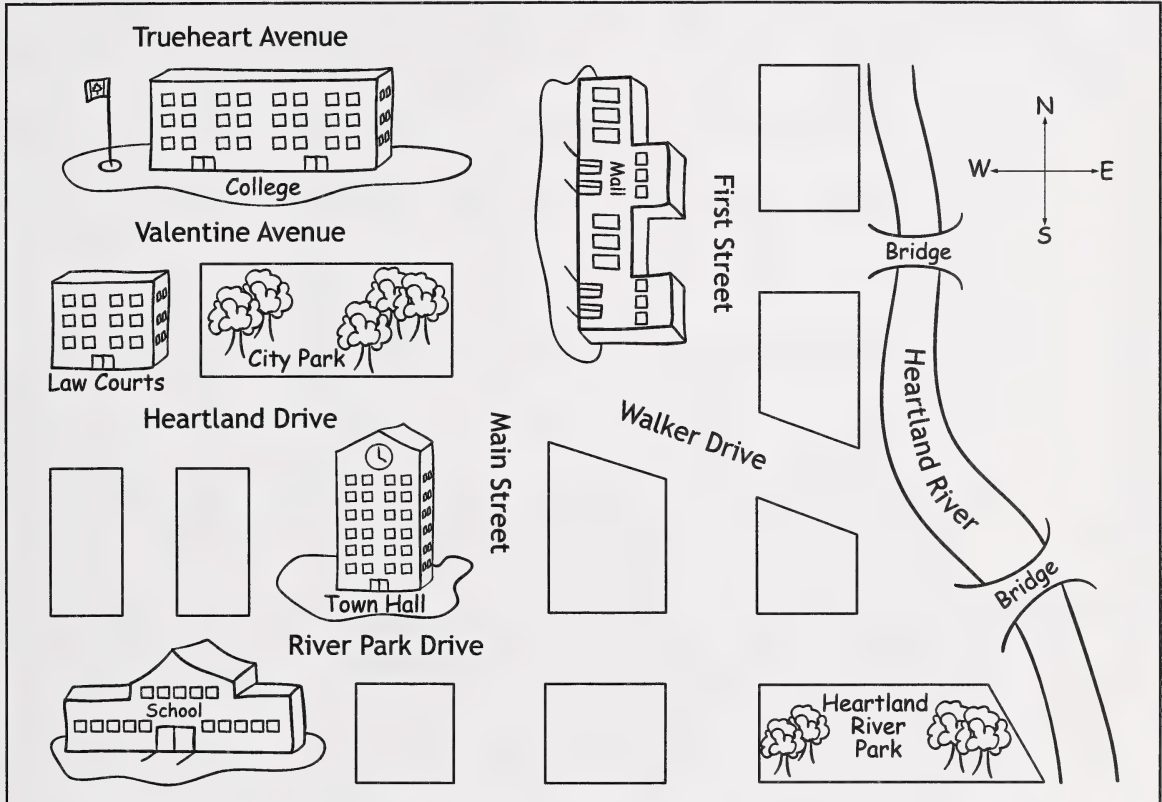
- Walk two blocks west of the starting point.
- Turn north on Poplar Street.
- Walk three blocks.
- Cross the bridge and turn east.
- Walk along the river's edge until you reach the playground.
- Stop at the southeast corner of the playground.



28

Day 17: Learning More About Maps

1. Use the map of Heartland to answer the following questions.



4 a. Four roads run in an east-west direction. List them.

- _____
- _____
- _____
- _____

1 b. The river is on the _____ side of town.

- ② c. Two streets intersect Valentine Avenue. List them.
- _____ • _____
- ② d. The mall is located between two parallel streets. What are their names?
- _____ • _____
- ② e. List two roads that are perpendicular to each other.
- _____ • _____
- ② f. List two streets that do not form a right angle where they intersect.
- _____ • _____
- ① 2. Use a coloured crayon or marker to make an X at the intersection of Heartland Drive and Main Street on the map.
- ④ 3. Maps show many street intersections, parallel streets, perpendicular streets, and right-angle corners. Think about your neighbourhood as you answer these questions.
- a. Does your neighbourhood have intersecting streets or roads?

- b. Does it have streets or roads that are parallel to other streets or roads?

- c. Does it have corners that are right angles? _____
- d. Does it have corners that are bigger than a right angle? _____

10

4. In the space below, draw a simple map of your neighbourhood. Include the following things, if you can:

- some intersections
- places where streets or roads are parallel to other streets or roads
- any right-angle corners
- the names of streets or roads
- the location of your home (Put a star where your house is.)

16

Day 18: Exploring Grids



1. Turn to page 217 in your textbook. Answer the questions in Practise Your Skills on the lines below.

a. _____ b. _____

c. _____ d. _____

4

2. Turn to page 221 of your textbook. Answer questions 5.a. and 5.b. on the lines below. Remember, in question 5.a. you need to write two paths.

5. a. _____

b. _____

4

- ③
3. Use a coloured crayon or marker to draw these objects at the correct locations.



at B5



at C3



at E1

6							
5							
4							
3							
2							
1							
	A	B	C	D	E	F	G

- ⑤ 4. Solve this problem using the Drawing a Diagram strategy. Remember to follow the four-step problem-solving process. Show your work.

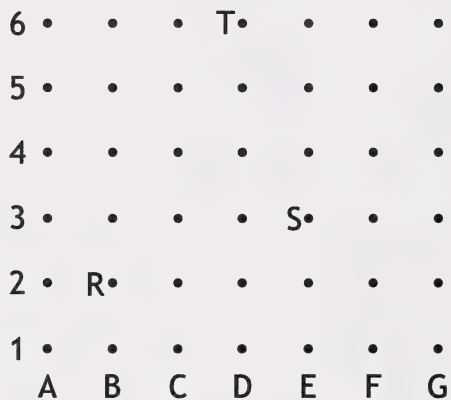
Sue and Perry are cycling in a youth marathon. At the 6-km rest stop, Perry said, “In another 4 km, I will be halfway through this race.” How many kilometres long is the marathon? Show the method you used to solve this problem as well as the answer.

⑤

3. Give directions for one path that would take you from **R** to **S** to **T** on the following grid.

Path from **R** to **S** to **T**:

- _____
- _____
- _____
- _____
- _____
- _____



5



Day 20: Hidden Locations

Journal Entry

Think about Search Game 1 and Search Game 2. What kind of strategies did you use to find hidden locations? Did you get better at finding an object on a grid after you practised? What kind of questions worked best? How did you record your guesses? Who could find the object in the least guesses, you or your home instructor? Add any other comments you have about the search games.

[illegible]

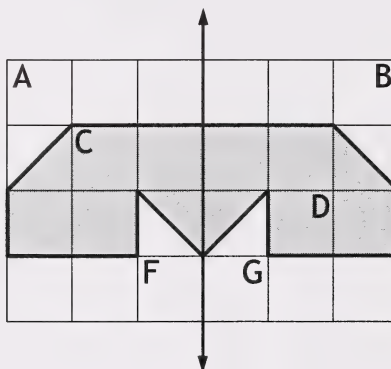
12

Day 21: Grids and Reflections

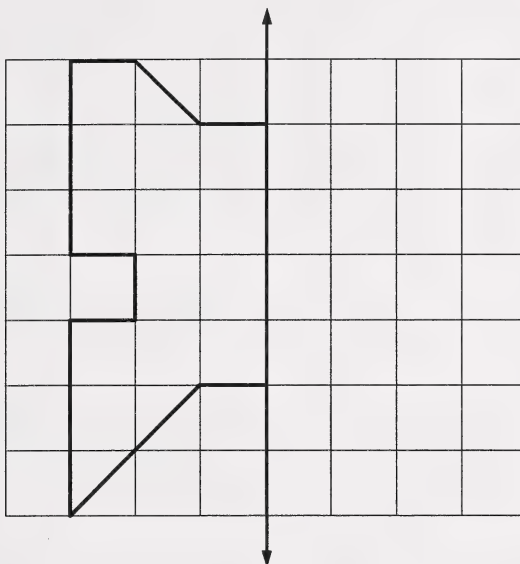
4

1. Answer these questions about the grid:

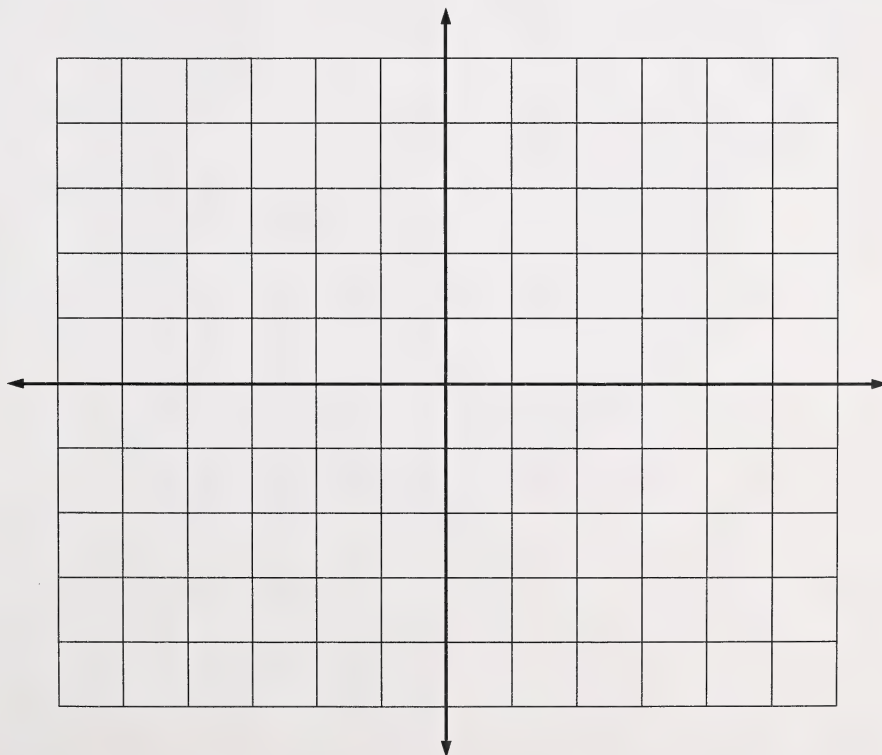
- The shaded shape is symmetrical. True or False
- The letters F and G are _____ square(s) away from the dividing line.
- The letters _____ and _____ are three squares away from the dividing line.



- ③ 2. Finish drawing the shape on the right side of this grid. Make it symmetrical.



- ⑤ 3. Create your own grid design for two lines of symmetry.



Day 22: Putting It All Together (III)

36

Part 1: Reviewing the Concepts

Use what you know about maps and grids to complete the following questions. Look back in the Student Module Booklet if you need to review any of the concepts you have learned. You are to complete **all** of the questions in Part 1.



5

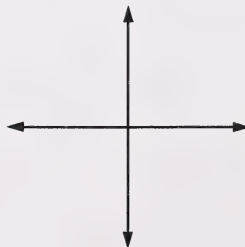
1.

Journal Entry

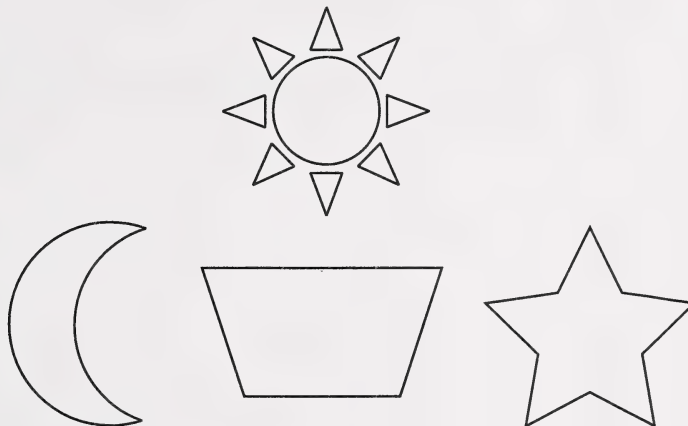
Describe one time when it would be very important for you to be given very clear directions about getting somewhere. (What would happen if you did not receive good directions?)

2

2. Fill in the points of this compass to show the correct directions of the arrows.



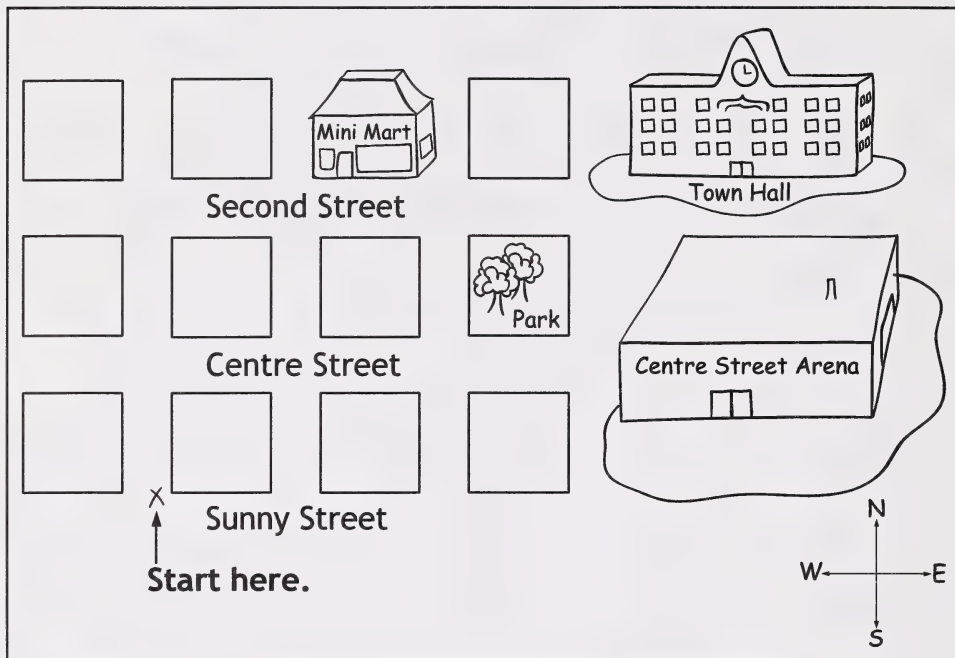
- ⑤ 3. Use the words **north**, **south**, **east**, **west**, **northwest**, **northeast**, **southwest**, and **southeast** to answer the questions about the picture below.



- a. The sun is _____ of the trapezoid.
- b. The sun is _____ of the moon.
- c. The star is _____ of the trapezoid.
- d. The moon is _____ of the sun.
- e. The trapezoid is _____ of the star.

④

4. Use this simple map to write directions on how to get from your house (marked X) to the Town Hall.



Directions from my house to the Town Hall:

- _____
- _____
- _____
- _____
- _____
- _____

④




5. Use the map from question 4 to answer the following questions.




- a. Sunny Street is parallel to _____ Street and _____ Street.
- b. The Town Hall is north of which building? _____

- c. The park is located on the _____ side of Second Street.

⑥

6. Look at the grid below to answer these questions.

- a. The  is located at the intersection of Column _____ and Row _____.
- b. The  is located at the intersection of Column _____ and Row _____.
- c. The  is located at the intersection of Column _____ and Row _____.

4					
3					
2					
1					
	A	B	C	D	E

②

7. Draw these objects in the correct squares on the grid in question 6.

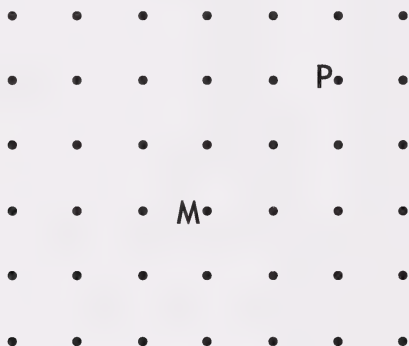
a.  at A2

b.  at C3

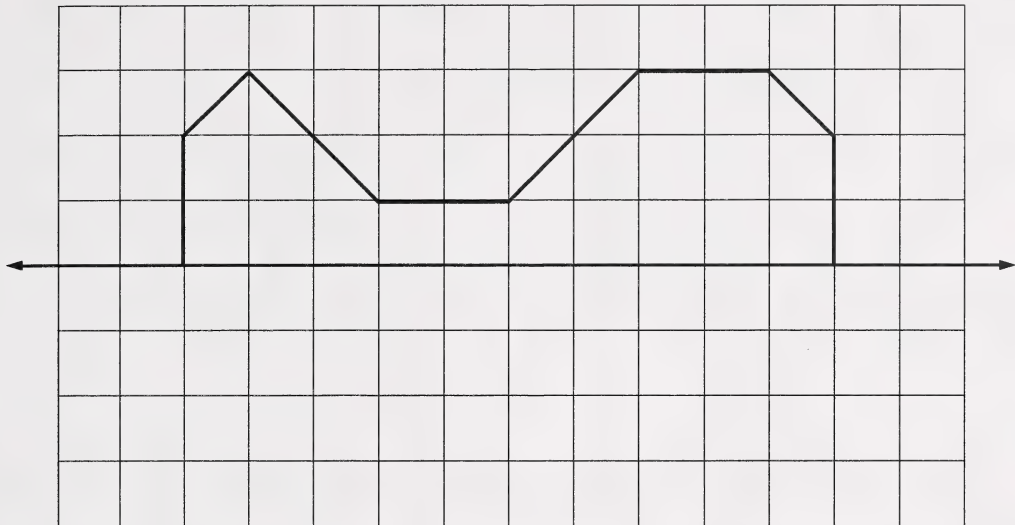
②

8. Follow the directions to go from the letter **M** to the Letter **P** on this dot grid. Draw the path on the grid.

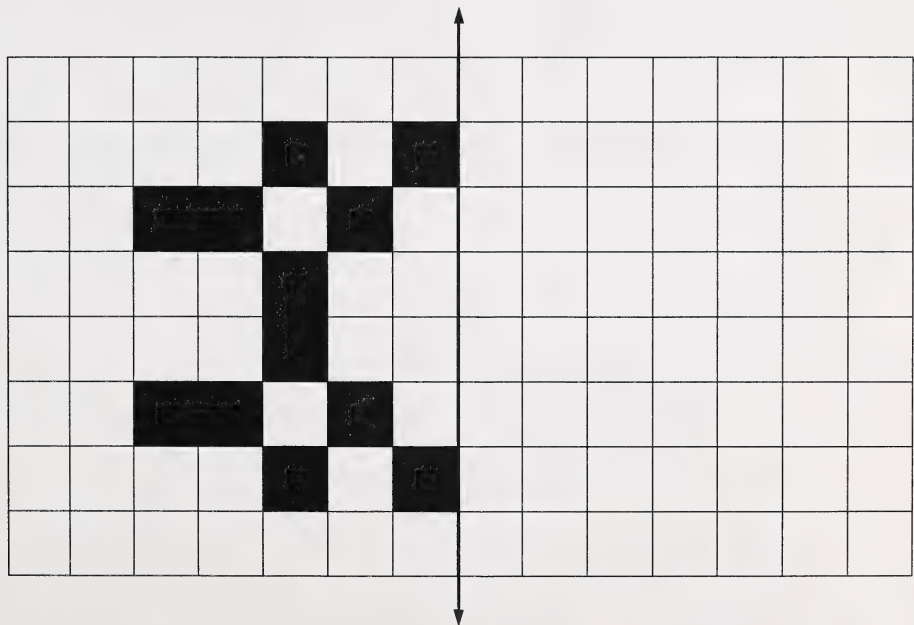
- Start at M. Go three dots north.
- Go two dots west.
- Go four dots south.
- Go four dots east.
- Go three dots north.
- Circle the letter P when you finish the path.



- ③
9. Make the shape on this grid symmetrical using the horizontal line of symmetry.



- ③
10. Finish this design of shaded squares. Make it symmetrical using the given line of symmetry.



Part 2: Challenge Activities



Choose **either** Activity A **or** Activity B. You may do both if you wish.

Activity A: Drawing Maps

10

Imagine that you are a town planner who has been asked to design a new community. This new community will be located beside a small river called the Meander River. Your job is to draw a map of this new community. You have been asked to include several special features in the map. Make sure that you have included each of the features on this checklist:

Checklist

- ☐ three parallel avenues that run east and west

Name them:

_____ Avenue

_____ Avenue

_____ Avenue

- ☐ four parallel streets that run north and south and that intersect the avenues

Name them:

_____ Street

_____ Street

_____ Street

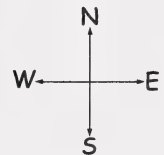
_____ Street

- ☐ one large park and playground

Name it: _____

- ☐ one school
- ☐ one church
- ☐ twelve house lots located along the streets and avenues
- ☐ Name your community.

Draw your map in the space below. Label the streets, the avenues, the church, the school, and the park. Draw the Meander River on the west side of the community. Print the name of your new community at the bottom of the page.



10

Activity B: Treasure Map

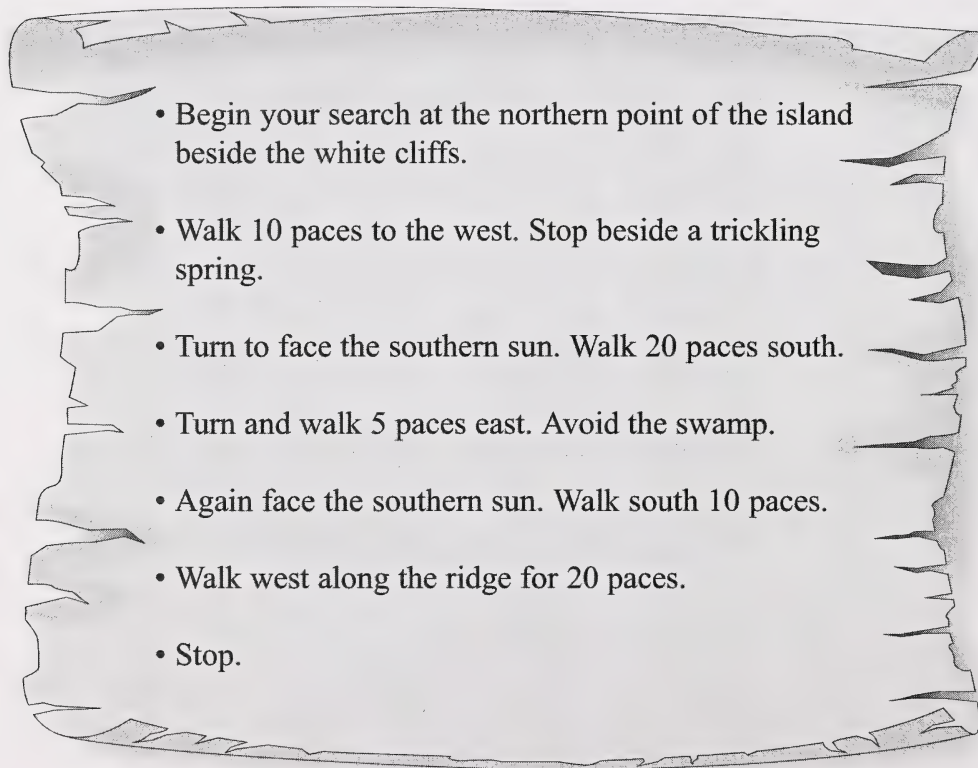
Imagine you have been shipwrecked on a deserted island. To your surprise, you find an old bottle with a tattered paper inside. It's a treasure map!

However, only part of the island is shown. First, you must use what you know about symmetry to complete the map.

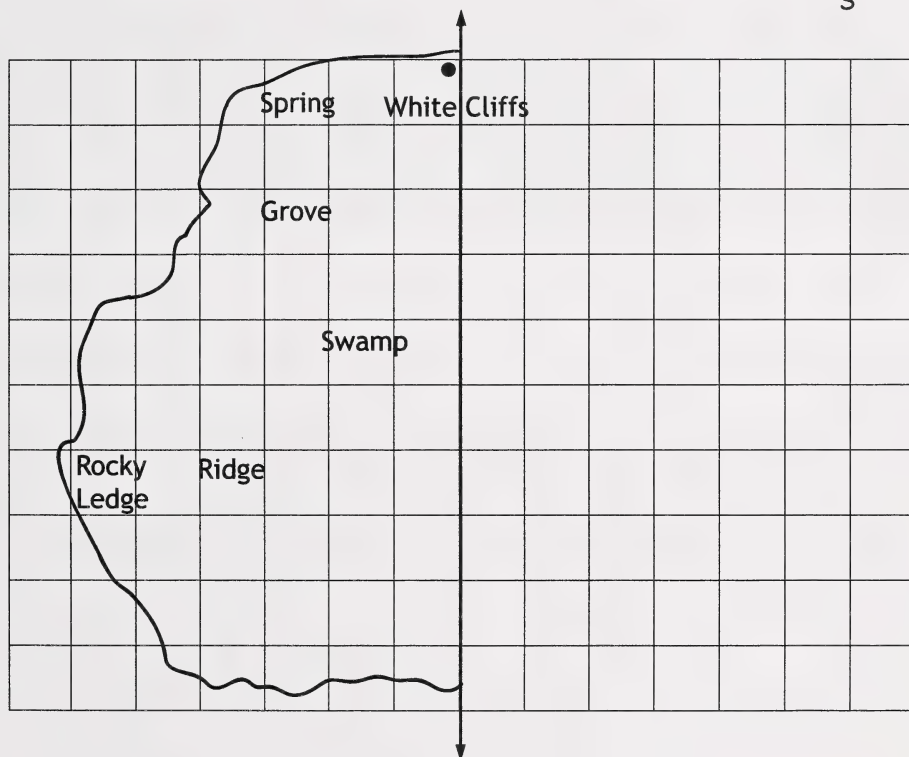
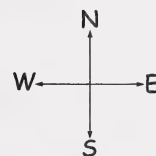
Then follow the directions to complete the first part of the journey to find the treasure. You must complete a mirror image of your first journey to find the correct location of the treasure!

As you follow the directions, trace your path on the map on the next page. Remember, one square on the grid equals five paces.

When you find the location of the treasure, draw an X on the map.

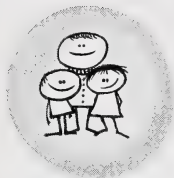


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The treasure is near the _____ on the
_____ side of the island.

Day 23: Assessing What You Know (III)



Home Instructor's Assessment Page for Day 23

Directions for the Home Instructor

Remove this sheet from the Assignment Booklet. Use the Checklist and Comments sections to help evaluate the student's work. When the Day 23 activities have been completed, firmly attach this sheet to Assignment Booklet 8C.

Student's Name _____

Home Instructor _____ Date _____

Indicate in the Checklist and Comments sections what you observe and hear as the student works through the assessment task. Encourage the student to “think out loud” as he or she works. As you observe, you may wish to use questions or prompts like the following to help in determining the student's level of understanding:

- In what direction are you going?
- How far do you have to go in this direction?
- What is the shortest route?
- How do you know that is the way to go?
- Are there other paths that you could take?
- How do you know that this shape is symmetrical?
- How do you make the shape symmetrical?
- How did you find the location of that object?

Checklist

- | | | |
|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------|
| A. The student identifies the four main directions (north, south, east, west) and understands their relationship to each other. | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| B. The student understands the relationship of northwest, northeast, southwest, and southeast to the four main directions. | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| C. The student can trace a path on paper by following a set of directions. | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| D. The student can write a set of directions using exact distances and direction words. | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| E. The student can give accurate oral directions using direction words and exact distances. | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| F. The student can identify the location of objects on a grid. | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| G. The student can draw objects on a grid in designated locations (using columns and rows). | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| H. The student can draw symmetrical figures on a grid. | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |
| I. The student can shade in symmetrical designs on a grid. | <input type="checkbox"/> Yes | <input type="checkbox"/> Not yet |

Comments

Add any comments you have regarding the student's performance on the assessment task or any other information about the student's learning experiences in this module that you would like to share with the teacher.

Day 23: Assessing What You Know (III)

Student's Assessment Page for Day 23

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Student's Name _____

Part 1: Showing What You Can Do


Note: You will need a ruler to complete this task.

1. The grid on the next page has several objects drawn on it. It also has a path drawn on it. Use the grid to complete the following tasks.


①

- a. Label the points on the compass arrows.


①

- b. The  is located at _____.

①

- c. The  is located at _____.

①

- d. The  is located at _____.

①

- e. Draw a star at L4.

①

- f. Draw a happy face at J1.

④

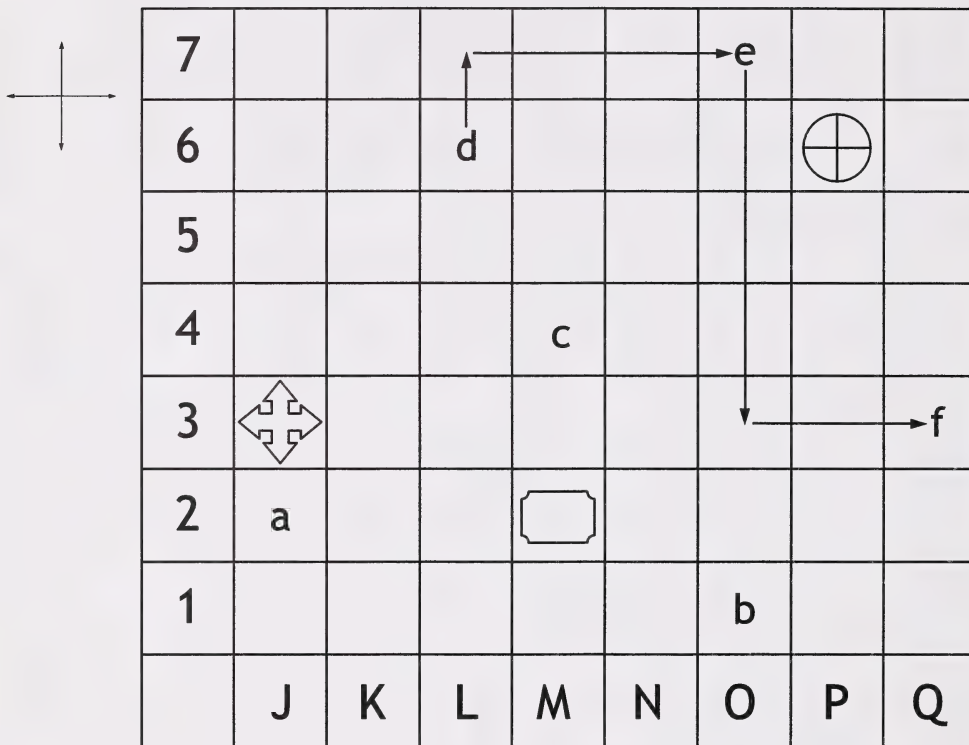
- g. Write a set of directions on the lines below for the path shown that goes from d to e to f.

- _____
- _____
- _____
- _____

④

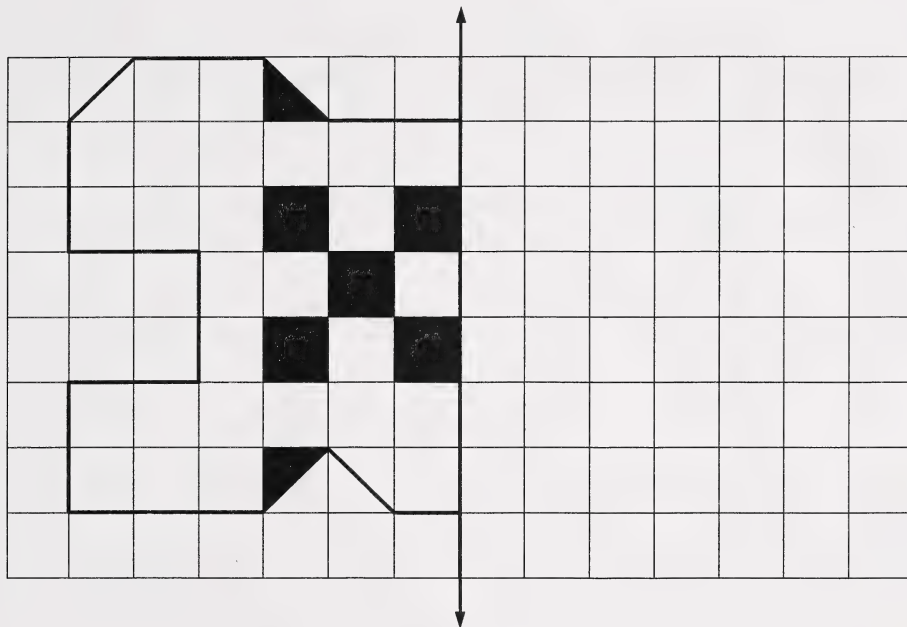
h. With a red crayon or marker, draw the path made by these directions:

- Start at a. Go five squares north.
- Go four squares east.
- Go six squares south.
- Go one square east. Circle this final square.



④

2. Finish drawing and shading the symmetrical figure on this grid.



10

Part 2: Basic Number Facts

This section is made up of two timed tests. Ask your home instructor to time you as you do each test. Wait for your home instructor to tell you when to begin. **Do not mark these tests. They will be marked by your teacher.**



1. Multiplication Number Facts

Timed Test: 2 minutes

⑤

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$$

$3 \times 7 =$

$6 \times 4 =$

$5 \times 9 =$

$8 \times 3 =$

$9 \times 4 =$

$$\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

$4 \times 9 =$

$5 \times 8 =$

$6 \times 7 =$

$7 \times 4 =$

$8 \times 4 =$

$$\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$$



If you finish before the two minutes are up, check your answers. Wait for your home instructor to tell you when to begin the next test.

⑤

2. Division Number Facts
Timed Test: 2 minutes

$$8 \overline{)64}$$

$$4 \overline{)32}$$

$$9 \overline{)27}$$

$$9 \overline{)72}$$

$$8 \overline{)40}$$

$$30 \div 6 =$$

$$21 \div 7 =$$

$$81 \div 9 =$$

$$54 \div 6 =$$

$$45 \div 9 =$$

$$8 \overline{)32}$$

$$8 \overline{)24}$$

$$6 \overline{)36}$$

$$7 \overline{)42}$$

$$8 \overline{)56}$$

$$63 \div 9 =$$

$$30 \div 5 =$$

$$49 \div 7 =$$

$$25 \div 5 =$$

$$54 \div 9 =$$

$$4 \overline{)20}$$

$$3 \overline{)27}$$

$$8 \overline{)32}$$

$$5 \overline{)45}$$

$$4 \overline{)28}$$



If you finish before the two minutes are up, check your answers.

Part 3: Thinking About What You Know

Part 3 is a chance for you to assess your own knowledge and abilities in mathematics. Take a few minutes before you begin writing to look back through Days 1 to 23 in your Student Module Booklet. On what days did you learn new things that you didn't know before? Was there anything you found difficult or hard to understand? What things did you enjoy? What things would you like to know more about?

Now, using complete sentences, finish the following paragraph starters. You may wish to talk over your ideas with your home instructor before you being writing.

1. I think Module 8: Exploring Geometry is mainly about

2. Some things I learned in this module are

3. One thing I liked about Exploring Geometry is

4. Something I don't really understand is

5. Something I would like to learn more about is

6. Something else I'd like to say is

Part 2: Student Work Examples